

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SCOTT A. FLATNESS
and MICHAEL J. AARNIO

Appeal 2007-0616
Application 10/733,689
Technology Center 1700

Decided: March 28, 2007

Before CHUNG K. PAK, CHARLES F. WARREN and
CATHERINE Q. TIMM, *Administrative Patent Judges*.

PAK, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal from the Examiner's final rejection of claims 13 through 23. Claims 1 and 12, the remaining claims pending in the above-identified application, stand withdrawn from consideration by the Examiner as being directed to a non-elected invention. We have jurisdiction pursuant to 35 U.S.C. §§ 6 and 134.

I. APPEALED SUBJECT MATTER

The subject matter on appeal is directed to a method of cleaning a surface within an industrial equipment vessel using a shockwave produced by detonation. Details of the appealed subject matter are recited in representative claims 13, 16, and 19, which are reproduced below:

13. A method for cleaning a surface within an industrial equipment vessel by removing a material, the vessel having a wall with an aperture therein, the method comprising:

for a plurality of cycles:

introducing fuel and oxidizer to a conduit; and

initiating a reaction of the fuel and oxidizer so as to cause a shockwave to impinge upon the surface to at least loosen said material on the surface; and

at least between said cycles introducing a pressurized gas to the conduit effective to substantially resist upstream infiltration of a contaminant from an interior of the vessel.

16. The method of claim 13 wherein:

the gas is introduced through a gas port in a downstreammost 20% of a flowpath length within the conduit.

19. The method of claim 13 wherein:

the gas is introduced at a plurality of circumferential locations to form a curtain of gas.

II. PRIOR ART

As evidence of unpatentability of the claimed subject matter, the Examiner relies upon the following references:

Plavnik	US 6,684,823 B1	Feb. 3, 2004
Ruegg	US 2004/0112306 A1	Jun. 17, 2004

III. REJECTIONS

The Examiner has rejected the claims on appeal as follows:

- 1) Claims 13 through 18 under 35 U.S.C. § 102(e) as anticipated by the disclosure of Ruegg;
- 2) Claims 19 through 22 under 35 U.S.C. § 103(a) as unpatentable over the disclosure of Ruegg;
- 3) Claims 13 through 23 under 35 U.S.C. § 103(a) as unpatentable over the combined disclosures of Plavnik and Ruegg; and
- 4) Claims 13 through 16 under the judicially created doctrine of obviousness-type double patenting as unpatentable over claims 5 through 9 of copending application 10/718,855.

IV. ISSUES

- 1) Would Ruegg alone, or in combination with Plavnik, have taught or suggested the limitation “introducing a pressurized gas to the conduit effective to substantially resist upstream infiltration of a contaminant from an interior of the vessel” recited in claims 13 through 15 and 17?
- 2) Would Ruegg alone, or in combination with Plavnik, have taught or suggested the specific pressurized gas feeding locations recited in claims 16 and 19?

- 3) Would Ruegg alone, or in combination with Plavnik, have taught or suggested employing a pressurized gas which is different from an oxidizing agent?
- 4) Would Ruegg alone, or in combination with Plavnik, have suggested the continuous flow of the purge gas recited in claim 20 or the supplemental purge gas recited in claim 23?
- 5) Are claims 13 through 16 of the instant application unpatentable under the doctrine of obviousness-type double patenting as being patentably indistinct from claims 5 through 9 of Application 10/718,855?

V. PRINCIPLES OF LAW

Under 35 U.S.C. § 102, anticipation is established only when a single prior art reference discloses, either expressly or under the principle of inherency, each and every element of a claimed invention. *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990).

“[T]he term ‘comprises’ permits the inclusion of other steps, elements, or materials.” *In re Baxter*, 656 F.2d 679, 686, 210 USPQ 795, 802 (CCPA 1981).

Under 35 U.S.C. § 103, obviousness cannot be established absent some teaching, suggestion and/or motivation in the applied prior art references and/or knowledge generally available to a person having ordinary skill in the art to arrive at the claimed subject matter. *Pro-Mold & Tool Co., Inc. v. Great lakes Plastics, Inc.*, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629-30 (Fed. Cir. 1996); *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984).

The judicially-created doctrine of obviousness-type double patenting prohibits a party from obtaining an extension of the right to exclude granted through claims in a later patent that are not patentably distinct from claims in a commonly-owned earlier patent. *Eli Lilly & Co. v. Barr Lab., Inc.*, 251 F.3d 955, 967, 58 USPQ2d 1869, 1877-78 (Fed. Cir. 2001); *In re Longi*, 759 F.2d 887, 892, 225 USPQ 645, 648 (Fed. Cir. 1985). “[A] double patenting of the obviousness type rejection is ‘analogous to [a failure to meet] the nonobviousness requirement of 35 U.S.C. § 103,’ except that the patent document underlying the double patenting rejection is not considered prior art.” *Longi*, 759 F.2d at 892 n.4, 225 USPQ at 648 n.4.

VI. FINDINGS OF FACT AND ANALYSES

ISSUE 1: Claims 13-15, and 17

Appellants do not challenge the Examiner’s factual finding that:

Ruegg et al. teach cleaning of contaminants in a boiler [corresponding to the claimed surface within an industrial equipment vessel]. Ruegg teaches introducing a fuel (4) and an oxidizer (3) into the conduit (1) and igniting the air/fuel to produce a shockwave that is directed through the conduit and into the boiler to remove deposits [caking or slag] (Abstract, paragraphs 4, 11, 36[, and claim 1]). (Compare Answer 4 with Br. 6-7).

Nor do the Appellants argue that Ruegg does not teach introducing a pressurized gas at least between cleaning cycles. (Compare Answer 4 with Br. 6-7). The Appellants’ only argument is that Ruegg’s compressed (pressurized) gas is not used for “resisting upstream infiltration of a contaminant” as required by claim 13. (See Br. 6-7). In response, the

Examiner takes the position that Ruegg's pressurized gas inherently resists upstream infiltration of at least one contaminant. (See Answer 4).

The dispositive question is, therefore, whether Ruegg's pressurized gas in the conduit is necessarily or inherently "effective to *substantially resist upstream* infiltration of a contaminant from an interior of the vessel" as required by claim 13. On this record, we answer this question in the affirmative.

As acknowledged by the Appellants (Br. 6), Ruegg teaches at paragraph 0045 that:

Following the ignition of the gas mixture, the inner pipe is preferably cleaned of the residues of the explosion, e.g., slag. This takes place, for example, by means of compressed air, which is sent through the inner pipe 22. For this purpose, one of the gas supply lines 30 is equipped with an additional valve 41, which is connected with a compressed air reservoir 42, e.g., a compressed air compressor or a compressed air cylinder. This additional valve 41, here depicted as a solenoid valve, preferably is also capable of being driven and actuated automatically.

We find that Ruegg also teaches in relevant part of paragraph 0050:

In preference, following the carrying out of the cleaning process, the inner pipe 52 and possibly also the outer pipe 51 is cleaned in a cleaning step, e.g., by means of compressed air it is freed of slag and water.

From these disclosures, there is no doubt that Ruegg's compressed gas is sufficiently pressurized to remove slag and water in the conduit. Thus, it is reasonable for the Examiner to conclude that at that same pressure, the compressed gas necessarily or inherently resists the slag deposit removed from the boiler from entering or infiltrating into at least upstream part of the

conduit. To find otherwise is to ignore the purpose of Ruegg's compressed gas, i.e., making Ruegg's conduit freed of slag and water. This is especially true since Plavnik teaches that beginning every new cleaning cycle, the conduit must be cleaned with a purge gas for safety reasons (col. 10, ll. 29-34).

The Appellants argue that Ruegg's compressed gas does not resist the upstream infiltration of contaminants since its "thin-walled container 25" appears to perform such a function (Br. 6). We do not agree. As can be seen from Figure 1 and paragraph 0013, Ruegg's compressed gas need not be used together with a thin-walled container 25. Indeed, Plavnik, like paragraph 13 of Ruegg, teaches a method for mixing a fuel and an oxidizing gas in a lance (not a thin-walled container) in a detonation cleaning process. In any event, claim 13, by virtue of using the transitional phrase "comprising," does not preclude the use of the thin-walled container, together with the compressed gas, to resist the upstream infiltration of contaminants.

Thus, for the factual findings set forth above and in the Answer, we concur with the Examiner that either Ruegg alone or Ruegg in view of Pravnik would have rendered the subject matter recited in claims 13 through 15, and 17 anticipated or obvious within the meaning of 35 U.S.C. §§ 102 and 103.

ISSUE 2: Claims 16 and 19

As pointed out by the Appellants (Br. 7-8), Ruegg and Pravnik do not mention the claimed specific purge gas feeding locations recited in claims 16

and 19. Nevertheless, the Examiner has not proffered sufficient explanation or evidence as to why one of ordinary skill in the art would have been led to employ the pressurized purge gases at the locations recited in claims 16 and 19. Thus, on this record, we are constrained to reverse the Examiner's decision rejecting claims 16 and 19 under 35 U.S.C. §§ 102 and 103.

ISSUE 3: Claim 18

Contrary to the Appellants' argument, Ruegg teaches that the oxidizing agent employed can be oxygen (oxygen cylinder) or air. (See Ruegg, paragraphs 0013 and 0036). Moreover, we take official notice that oxygen, oxygen enriched air, and air are all well known oxidizing agents. Since compressed air is used to purge the residues of the explosion in the conduit, we find that Ruegg teaches that the oxidizing agent employed can be the same or different from the compressed air used for purging. Accordingly, we affirm the Examiner's decision rejecting claim 18 under 35 U.S.C. §§ 102 or 103.

ISSUE 4: Claims 20-23

Contrary to the Appellants' arguments, Ruegg alone, or together with Pravnik, would have taught or suggested the continuous introduction of the pressurized gas recited in claim 20 and the supplemental flow of a purge gas recited in claim 23. Although Ruegg and Pravnik do not specify how the compressed air is introduced, it must be introduced either intermittently or continuously. Thus, from our perspective, one of ordinary skill in the art would have readily envisaged either approach. This is especially true in this

situation since Ruegg and Pravnik do not foreclose one of ordinary skill in the art from employing either approach.

Moreover, providing an additional purge gas flow would have been well within the ambit of one of ordinary skill in the art since the need for additional purge gas flows is dependent on the contaminants remaining in the conduit during or after the first flow of a purge gas.

Accordingly, for the factual findings set forth above and in the Answer, we concur with the Examiner that Ruegg alone, or in combination with Pravnik, would have rendered the subject matter recited in claims 20 through 23 obvious to one of ordinary skill in the art within the meaning of 35 U.S.C. § 103.

ISSUE 5: Obviousness-Type Double Patenting

According to the Examiner (Answer 3):

[C]laims 13-16 as [sic, are] provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 5-9 of copending application 10/718855.

The Examiner has determined that “[a]lthough the conflicting claims are not identical, they are not patentably distinct from each other...” (See the Examiner’s final Office action dated August 16, 2005, page 6). The Appellants have not challenged this determination. (See Br. and Reply Br. in their entirety). Accordingly, we summarily affirm the Examiner’s decision provisionally rejecting claims 13 through 16 under the judicially-created doctrine of obviousness-type double patenting.

VII. CONCLUSION

In summary:

- 1) The § 102 rejection of claims 13 through 15, 17, and 18 as anticipated by Ruegg is affirmed;
- 2) The § 102 rejection of claim 16 as anticipated by Ruegg is reversed;
- 3) The § 103 rejection of claim 19 as unpatentable over Ruegg is reversed;
- 4) The § 103 rejection of claims 20 through 23 as unpatentable over Ruegg is affirmed;
- 5) The § 103 rejection of claims 13 through 15, 17, 18, and 20 through 23 as unpatentable over Pravnik and Ruegg is affirmed;
- 6) The § 103 rejection of claims 16 and 19 as unpatentable over Pravnik and Ruegg is reversed; and
- 7) The provisional obviousness-type double patenting rejection of claims 13 through 16 based on claims 5 through 9 of Application 10/718,855 is affirmed.

Accordingly, the decision of the Examiner is affirmed-in-part.

VIII. TIME PERIOD

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. §1.136(a).

AFFIRMED-IN-PART

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